REMARKS/ARGUMENTS

Applicants would like to thank the Examiner for the careful consideration given the present application and for the indicated allowability of claim 20. The application has been carefully reviewed in light of the Office Action.

Applicants thank the Examiner for granting a telephonic interview to applicants' attorney. The participants in the August 27, 2009 interview were Examiner Geoffrey Evans and attorney Brad Spencer. Claims 13 and 17 were discussed during the interview, along with the cited references. Applicants' attorney presented arguments detailed below. No agreement was reached during the interview.

The Examiner is respectfully requested to acknowledge applicants' priority in the next communication.

The Office action states that copies of GB 2,153,140 and an article by Bull et al., both cited on the IDS of April 14, 2006, are not present in the image file wrapper. Therefore, the examiner did not indicate a consideration of said references. Copies of said references are provided herewith. The Examiner is respectfully requested to indicate a consideration of these references in the next communication.

Claim 24 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claim 24 has been amended to remove the terms "particularly packaging components." Applicants respectfully request that the rejection under 35 U.S.C. 112 be withdrawn in view of the current amendment.

Claims 13, 15 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An. Claim 13 recites, "an anode forming a sealed window...the curvature of the anode being designed to cooperate with the curvature of the emitting face to focus the

electron beam outside the chamber." The anode of claim 13 forms a sealed window and is curved with the emitting face of a cathode to focus an electron beam outside of the chamber.

Brewster teaches an electron gun comprising an anode window 16 and a cathode comprising emitting needles 14. The anode has a curvature, but no focusing occurs. Brewster's electron beam 30 is rectilinear. Accordingly, the anode and the cathode have no focusing function.

An discloses an electron gun comprising a flat focusing anode 12 having a hole 22, and a cathode 30. The cathode has a curvature, but the curvature is only for increasing the size of the electron emitting area B (see, e.g., paragraphs [0011], [0025] and [0026]). An's cathode has no focusing function.

The subject matter of claim 13 provides an advantage over the prior art in that the anode both forms a sealed window and, in cooperation with the curved cathode, performs a focusing function. Such a system is not suggested by the prior art of record.

Further, the electron gun of claim 13 solves problems that are discussed in the present application, from page 2, line 18 to page 3, line 14:

> "Therefore, it is known how to make an electron beam in the atmosphere, outside the chamber of the electron gun generating this beam. Since the inside of this chamber is under vacuum, the window through which the electron beam passes must resist atmospheric pressure.
>
> This problem arises particularly when it is required to extract low energy electrons (less than or equal to 500 keV) from the chamber, since the window then has to be very thin. In this case it has to be made curved, for example cylindrical but preferably spherical.

However, another problem arises: for some irradiations by an electron beam, it is useful for the electron beam to be focused.

This is even essential in some cases in which the geometry of the beam is important to suitably irradiate objects, for example milk bottle caps, or to concentrate the energy of the beam at a point so as to reach the very high power densities required for welding, cutting or a surface treatment.

But it is well known that focussing elements in a conventional electron gun, and also deflection elements and electron beam transport elements, are frequently very complex and in all cases are large."

In view of the above-discussed differences between the subject matter of claim 13 and the cited references, applicants respectfully submit that claim 13 is allowable over said references. Claims 15 and 19 depend from claim 13.

Claim 14 was rejected under 35 U.S.C. 103(a) based on the combination of Brewster, An and Katsap. Claim 16 was rejected based on the combination of Brewster, An and Sommeria. Claim 17 was rejected based on the combination of Brewster, An and Gaudel. Claim 18 was rejected based on the combination of Brewster, An and Kiga. Claims 21 and 22 were rejected based on the combination of Brewster, An and Swanson. Claims 23 and 24 were rejected based on the combination of Brewster, An and Robinson. Claims 14, 16, 18 and 21-24 depend from claim 13, which is discussed above. Applicants submit that claims 14, 16, 18 and 21-24 are allowable for at least the reasons discussed above with respect to claim 13.

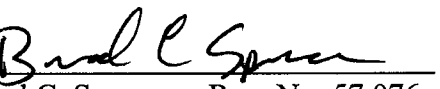
Claim 20 was objected to as being dependent upon a rejected base claim. Claim 20 depends from claim 13, which is discussed above.

New claim 25 has been added, which depends from claim 13.

In light of the foregoing, it is respectfully submitted that the present application is in condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. BRV-40065.

Respectfully submitted,
PEARNE & GORDON, LLP

By: 
Brad C. Spencer – Reg. No. 57,076

1801 East 9th Street
Suite 1200
Cleveland, Ohio 44114-3108
(216) 579-1700

Date: August 28, 2009